

**REMARKS**

Claims 1-27 are pending.

Claim 19 has been rejected under 35 U.S.C. 101 as directed to non-statutory subject matter.

First, it is respectfully submitted that the rejection is improper because claim 19 recites a radio reception program in a radio reception apparatus. Therefore, the claimed subject matter does not relate to computer listings *per se*, but rather to physical things within the meaning of MPEP 2106.01.

However, to comply with the Examiner's request, claim 19 has been amended to recite a radio reception program on a computer readable medium in a radio reception apparatus compatible with a plurality of modulation methods having different multi-value numbers, the program causing a computer to execute the steps recited in the claim.

It is noted that no new matter is added, because the specification describes on page 18 that the block-diagram in FIG. 4 is implemented by a software in a digital signal processor (DSP).

Further, claims 1-27 have been rejected under 35 U.S.C. 112, first paragraph, as containing the subject matter which was not described in the specification so as to enable one skilled in the art to make and use the invention.

The Examiner takes the position that the specification does not provide an enabling disclosure for:

-a comparing unit for comparing measured error vector with a prescribed threshold value; and

-a modulation switching unit for switching the modulation method in accordance with result of comparison by said comparing unit.

The Examiner requests “to clarify how many modulating methods are switched for a single prescribed threshold value, which is not sufficient for switching between a plurality of modulation methods.”

As the Examiner’s request is unclear, the undersigned Applicant’s representative conducted a telephone conference with Examiner Khanh Tran to understand the Examiner’s position. The Examiner’s assistance is greatly appreciated.

During the telephone conference, the Examiner explained that he believes that the specification does not support the language of the claim preamble that recites radio reception apparatus compatible with a plurality of modulation methods.

The Examiner’s position is respectfully traversed for the following reasons.

For example, claim 1 recites a radio reception apparatus compatible with a plurality of modulation methods having different multi-value numbers, comprising:

-a measuring unit measuring an error vector corresponding to a distance between an original symbol point of a received signal and an actually received symbol point on an IQ coordinate plane;

-a comparing unit comparing said measured error vector with a prescribed threshold value; and

-a modulation method switching unit switching the modulation method in accordance with result of comparison by said comparing unit.

As demonstrated below, the claim language is clearly supported by the specification.

For example, as described on page 17 of the specification, “determining unit 2 calculates EVM (an error vector magnitude) between a received symbol point of the IQ signal supplied from reception processing unit 1 and the true symbol point and, supplies the calculated value to control unit 3, possibly through an averaging unit 4 if appropriate. Control unit 3 compares the calculated EVM with a threshold value that have been calculated and held in advance, and according to the result, generates a control signal designating a modulation method to be applied to the line side, determining unit 2, reception processing unit 1, synchronization processing units S1 and S2 and to the radio apparatus on the transmitting side.”

Hence, the specification describes that the determining unit 2 calculates EVM, and the control unit 3 compares the calculated EVM with a threshold value that have been calculated in advance. As a result of comparison the control unit 3 designates a modulation method.

On pages 11 and 19, the specification describes an example of the EVM measured in Quadrature Phase Shift Keing (QPSK) modulation method. When the measured EVM is not larger than the threshold value, the modulation method is switched to Quadrature Amplitude Modulation (16QAM) method. When the EVM is larger than the threshold value, it is considered that the communication quality is unsatisfactory and the QPSK modulation method is not switched to 16QAM.

Although these examples disclose switching between two modulation methods, the specification enables one skilled in the art to practice the Applicants’ invention for a plurality of modulation methods. In particular, the specification makes it clear that the EVM may be measured in a modulation mode different from QPSK to enable switching into a modulation mode different from 16QAM.

For example, on page 16, lines 24-27, the specification indicates that “in the present embodiment, it is assumed that the radio reception apparatus is compatible between QPSK as a modulation method of smaller multi-value number and 16QAM as a modulation method of larger multi-value number.”

Further, the flow chart in FIG. 6 shows that when the EVM is not larger than the threshold value (step S4), the modulation method is changed by increasing modulation multi-value number (step S5).

Accordingly, the specification enables one skilled in the art to use the Applicants' invention for switching between any modulation method having a smaller multi-value number and any modulation method having a larger multi-value number. Further details would only be superfluous to an understanding of how to make and use the Applicants' invention.

Therefore, the specification clearly supports radio reception apparatus compatible with a plurality of modulation methods having different multi-value numbers, as the claims recite.

It is well settled that the disclosure is not addressed to the public generally, but to those skilled in the art. In re Storrs, 245 F.2d 474, 478, 114 U.S.P.Q. 293, 296-97 (C.C.P.A. 1957). Because the disclosure is sufficient if it enables those skilled in the art to practice the claimed invention, there is no need to disclose what is well-known in the art. In re Myers, 410 F.2d 420, 161 U.S.P.Q. 668 (C.C.P.A. 1969).

As demonstrated above, the specification enables one skilled in the art to practice the claimed switching in a radio reception apparatus compatible with a plurality of modulation methods having different multi-value numbers, as the claims recite.

Moreover, the specification is sufficient to enable one skilled in the art to make and use the claimed comparing unit for comparing measured error vector with a prescribed threshold

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value, the claimed modulation switching unit for switching the modulation method in accordance with result of comparison by said comparing unit, and the respective claimed steps.

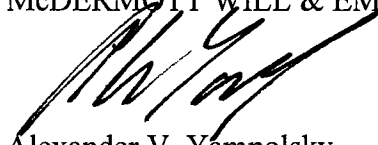
Therefore, the specification clearly supports the claimed invention within the meaning of 35 U.S.C. 112, first paragraph. Accordingly, the rejection of claims 1-27 under 35 U.S.C. 112, first paragraph, is improper and should be withdrawn.

In view of the foregoing, and in summary, claims 1-27 are considered to be in condition for allowance. Favorable reconsideration of this application, as amended, is respectfully requested.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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